AMENDMENTS TO THE CLAIMS

1. (original) In an electronic device that runs a software tool for design and execution of a system, a method for locking at least one attribute of a signal provided from a first node to a second node, the method comprising:

providing a latch component between the first node and the second node; and

setting the latch component to a first mode in which the latch component automatically determines and locks the at least one attribute of the signal on an occurrence of a triggering event, the first mode changing to the second mode, wherein in the second mode, the attribute of the signal are locked to be prevented from changing when the design of the system changes.

2. (original) The method of claim 1 further comprising the step of:

setting the latch component initially to a third mode in which the latch component is prohibited from locking attributes of the signal,

wherein in the third mode, a signal passes through the latch component to the second node regardless of the attributes of the signal.

3. (original) The method of claim 2 further comprising the step of:

resetting the latch component from the second mode to the third mode.

4. (original) The method of claim 1 wherein the latch component is placed on branches in a model of the system.

5. (original) The method of claim 1 wherein the latch component automatically determines and locks at least one attribute of multiple signals.

6. (original) The method of claim 1 wherein the latch component receives information from an application programming interface (API) of the design and execution software tool and automatically determines the at least one attribute of the signal based on the information received from the API of the design and execution software tool.

7. (original) The method of claim 1 wherein the design and execution software tool includes a time-based block diagram modeling and execution system.

8. (original) The method of claim 1 wherein the design and execution software tool includes a state-based and flow diagram modeling and execution system.

9. (original) The method of claim 1 wherein the design and execution software tool includes a data flow diagram modeling and execution system.

10. (original) The method of claim 1 wherein the design and execution software tool includes a software diagram modeling and execution system.

11. (original) The method of claim 1 wherein the design and execution software tool includes a Unified Modeling Language (UML) diagram modeling and execution system.

12. (original) The method of claim 1 wherein one of the first node and the second node includes a polymorphic implementation of a subsystem.

13. (original) In an electronic device that runs a software tool for design and execution of a system, a method for locking at least one attribute of a signal using an existing component that performs a function in connection to the signal, the method comprising the steps of:

providing the component on a path of the signal;

providing the component with a first mode in which the component automatically determines and locks the at least one attribute of the signal on an occurance of a triggering event, the first mode changing to a second mode; and

wherein the attribute of the signal is locked to be prevented from changing in the second mode when the design of the system changes.

14. (original) The method of claim 13 further comprising the step of:

providing the component with a third mode in which the component is prohibited from locking attributes of the signal,

wherein in the third mode, a signal passes through the component regardless of the attributes of the signal.

15. (original) The method of claim 14 wherein the component is reset from the second mode to the third mode.

16. (original) The method of claim 13 wherein the component receives information from an application programming interface (API) of the design and execution software tool and automatically determines the at least one attribute of the signal based on the information received from the API of the design and execution software tool.

17. (original) The method of claim 13 wherein the component includes a source port component that performs the function of linking outside the system into the system.

18. (original) The method of claim 13 wherein the component includes a destination port component that performs the function of linking the system into outside the system.

19. (original) The method of claim 13 wherein the component includes a bidirectional port in which the signal flows into and out of the system.

20. (original) The method of claim 13 wherein the component includes branches connecting components of the system.

21. (original) The method of claim 13 wherein the signal are applied to/from a polymorphic implementation of a subsystem.

22. (original) The method of claim 13 wherein the component automatically determines and locks at least one attribute of multiple signals.

23. (original) A computer-readable medium holding instructions executable in a computer that runs a software tool for design and execution of a system, wherein a signal is provided from a first node to a second node, comprising:

providing a latch component between the first node and the second node; and

setting the latch component to a first mode in which the latch component automatically determines and locks the at least one attribute of the signal on an occurance of an triggering event, the first mode changing to a second mode,

wherein the attribute of the signal is locked and prevented from changing in the second mode when the design of the system changes.

24. (original) The medium of claim 23 further comprising:

setting the component to a third mode in which the component is prohibited from locking attributes of the signal,

wherein in the third mode, the signal flows through the component to the second node regardless of the attributes of the signal.

25. (original) The medium of claim 23 wherein the latch component receives information from an application programming interface (API) of the design and execution software tool and automatically determines the at least one attribute of the signal based on the information received from the API of the design and execution software tool.

26. (original) The medium of claim 23 wherein the latch component automatically determines and locks at least one attribute of multiple signals.

27. (original) In an electronic device that runs a software tool for design and execution of a system, a method for collecting and locking at least one attribute of signals, wherein the system includes components through which the signals flow, the method comprising the steps of:

providing match-criteria for selecting signals;

determining signals that meet with the match criteria; and

when a predetermined event occurs, automatically determining the signal attributes for the signals that meet the match criteria,

wherein the attribute of the signal is locked to be prevented from changing when the design of the target system changes.

28. (original) The method of claim 27 further comprising inserting a component with means for storing the collected attributes of the signals when the signals meeting the match-criteria do not have means for storing.

29. (new) A system for locking at least one attribute of a signal provided from a first node to a second node in a model, the system comprising:

a mode unit for setting the system to a first mode in which the system automatically determines and locks the at least one attribute of the signal on an occurrence of a triggering event; and

an attribute unit for storing the at least one attribute of the signal,

wherein the first mode changes to a second mode on the occurrence of the triggering event in which the at least one attribute of the signal is locked to be prevented from changing when the design of the system changes.

30. (new) The system of claim 29, wherein the mode unit sets the system initially to a third mode in which the system is prohibited from locking the at least one attribute of the signal, wherein in the third mode, the signal passes through the system to the second node regardless of attributes of the signal.

31. (new) The system of claim 30, wherein the mode unit resets the system from the second mode to the third mode.

32. (new) The system of claim 29, further comprising:

an application programming interface (API) for automatically determining the at least one attribute of the signal.

33. (new) The system of claim 29 wherein the model comprises at least one of a time-based block diagram, a state-based and flow diagram, and a data flow diagram.

34. (new) The system of claim 29 wherein one of the first node and the second node comprises a polymorphic implementation of a subsystem.

35. (new) The system of claim 29 wherein the system comprises at least one of a signal latch component, a source port component and a destination port component.

36. (new) The system of claim 29, wherein the system comprises a bidirectional port in which the signal flows into and out of the system.

37. (new) The system of claim 29, wherein the system comprises branches connecting components of the system.